PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-076336

(43)Date of publication of application : 14.03.2000

(51)Int.Cl. G06F 17/60
G09C 1/00
H04L 9/32
H04L 12/54
H04L 12/58
H04M 3/42

(21)Application number : 10-244726

(22)Date of filing : 31.08.1998

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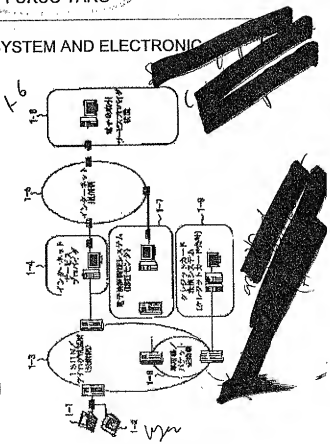
(54) ELECTRONIC SETTLEMENT AUTHENTICATION SYSTEM AND ELECTRONIC COMMERCE SERVICE PROVIDER DEVICE



(57)Abstract:

PROBLEM TO BE SOLVED: To easily and securely carry out electronic commerce such as on-line shopping through the Internet by preventing secret information on a credit card number etc., from leaking.

SOLUTION: Order data on an article etc., are sent from a user terminal 1-1 to the electronic commerce service provider device 1-6 through the Internet 1-5 and the electronic commerce provider device sends those data out to an electronic settlement authentication system 1-7. The electronic settlement authentication system calls the user terminal back through a public telephone network 1-3 to receive secret information on a credit card number etc., directly from the user terminal through the public telephone network, sends the secret information to a credit card settlement system 1-9, and receives authentication result data on the credit card number etc., from the credit card settlement system and then sends the authentication result data to the electronic commerce service provider device.

LEGAL STATUS

[Date of request for examination]	30.07.2001
[Date of sending the examiner's decision of rejection]	16.12.2003
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]	
[Date of final disposal for application]	
[Patent number]	
[Date of registration]	
[Number of appeal against examiner's decision of rejection]	
[Date of requesting appeal against examiner's decision of rejection]	
[Date of extinction of right]	

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CLAIMS

[Claim(s)]
[Claim 1] Send and receive the data of electronic commerce through the Internet between a user terminal and electronic commerce service provider equipment. In the electronic banking authentication system for the electronic commerce which settles payment of this electronic commerce by the credit card transaction system this electronic banking authentication system If the data of electronic commerce including a user ID child are received from said electronic commerce service provider equipment A means to call back a user terminal through a public network based on this user ID child, and to receive the secrecy information of the user for electronic banking directly through this public network from a user terminal, A means to transmit the secrecy information of the this user who received to a credit card transaction system, and to receive the authentication result data about this user's secrecy information from a credit card transaction system, The electronic banking authentication system characterized by having a means to transmit these authentication result data to said electronic commerce service provider equipment.
[Claim 2] Said electronic banking authentication system is an electronic banking authentication system according to claim 1 characterized by having the configuration which sends and receives information through the public network of said user terminal and ISDN circuit, or an analog telephone line, and sends and receives information data through said credit card transaction system and dedicated line, or a digital data exchange.
[Claim 3] Said electronic banking authentication system is an electronic banking authentication system according to claim 1 or 2 characterized by having the subscriber database storage section which memorizes the subscriber information on the user who registered with this electronic banking authentication system beforehand, and an electronic commerce service provider, and the transaction database storage section which memorizes the order data of the electronic commerce sent and received between a user terminal and electronic commerce service provider equipment.
[Claim 4] They are claim 1 characterized by having the configuration which the subscriber database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the user ID child and electronic commerce service provider identifier of a proper to each user and each electronic commerce service provider, respectively, and said electronic banking authentication system uses those identifiers as a master key, and reads the subscriber information on a user or an electronic commerce service provider from said subscriber database storage section thru/or an electronic banking authentication system given in 3 any 1 terms.
[Claim 5] They are claim 1 which the transaction database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the transaction identifier of a proper to the order data of each electronic commerce, respectively, and is characterized by equipping said electronic banking authentication system with a means to notify this transaction identifier to said credit card transaction system and said electronic commerce service provider equipment thru/or an electronic banking authentication system given in 4 any 1 terms.
[Claim 6] Said electronic banking authentication system searches this user's telephone number from the

subscriber database storage section based on the user ID child transmitted from electronic commerce service provider equipment. A means to call back a user terminal through a public network with this telephone number, Claim 1 characterized by having a means to send out an announcement including the guidance which stimulates transmission of the secrecy information of the user for electronic banking, and the means which carries out reception maintenance of the secrecy information transmitted from the user terminal thru/or an electronic banking authentication system given in 5 any 1 terms.

[Claim 7] Said electronic banking authentication system is equipped with a means to recognize whether the circuit to which the user terminal was connected is an ISDN circuit, or it is an analog telephone line based on the data of said subscriber database storage section. A means to call back said user terminal A user terminal is faced calling back when the circuit to which said user terminal was connected is an ISDN circuit. When the circuit of said user terminal is busy The queuing call or call waiting call which waits for and calls busy termination is performed. The electronic banking authentication system according to claim 6 characterized by having the configuration which performs the queuing call or call waiting call which waits for and calls termination of the Internet connectivity of said user terminal when the circuit to which said user terminal was connected is an analog telephone line.

[Claim 8] A means to provide a user terminal with the display screen for electronic commerce through the Internet, and to receive the order data of electronic commerce with a user ID child from a user terminal, A means to transmit this user ID child and the order data of electronic commerce to an electronic banking authentication system through the Internet, A means to receive said user ID child and the authentication result information about said electronic commerce from said electronic banking authentication system, Electronic commerce service provider equipment characterized by having a means to transmit this authentication result information to said user terminal with the transaction identifier of the order data of said electronic commerce.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the electronic banking authentication system and electronic commerce service provider equipments in electronic commerce, such as on-line shopping by the Internet.
[0002] The commercial on line service by the Internet spreads in recent years, and the opportunity for the individual secrecy information for electronic banking to be transmitted and received on the Internet is increasing. The individual secrecy information sent and received for electronic banking is protected by insurance, and construction of the system which can perform quick and simple electronic banking is demanded as use of the electronic commerce by such commercial on line service increases.
[0003] In on-line shopping, virtual Mall shopping, etc. by the Internet for a user side It is the system by which the secrecy information which secrecy information, such as a credit card number, was transmitted to insurance, and was transmitted is not abused by revealing, moreover, for an electronic commerce service provider side It is important that the user who accessed electronic commerce service is him of Shinsei of a commercial transaction, and it is the system by which the corroboration of the price using the credit card number information transmitted by the user that there is no trouble in paying is obtained.
[0004]
[Description of the Prior Art] In case the electronic commerce service by the Internet is used, transmission of secrecy information, such as a credit card number, is required of a user in many cases at the time of the purchase of goods etc. Although the encoding technology and the secret communication technique of transmit data are used in transmission of secrecy information, in the present condition, the safety to secrecy information can never say that it is enough only with those techniques.
[0005] Because, since the information dispatch in the Internet goes via many and unspecified servers in which a management engine is not necessarily clear, it has a possibility that the surreptitious use improper use of the secrecy information may be carried out. Therefore, the following policies were conventionally taken about the treatment of secrecy information, such as a credit card number, for example.
[0006] One of them is the approach of transmitting the order data and the user name of electronic commerce, and performing electronic commerce, without transmitting to each electronic commerce service provider side by the Internet and other means of communications, and the user's registering secrecy information, such as a credit card number, beforehand, and transmitting secrecy information, such as a credit card number, to the electronic commerce service utilization time by the Internet.
[0007] However, by this approach, when modification is produced in a credit card number etc., that must be transmitted and notified to each registration place electronic commerce service provider side. Moreover, since secrecy information, such as a credit card number, must be registered, many parts distribute and secrecy information is kept to each electronic commerce service provider side when performing goods purchase etc. from two or more electronic commerce service providers, it is not desirable after that the safety to a nondisclosure manages.

[0008] As other approaches, the method of transmitting secrecy information, such as a credit card number, to an electronic commerce service provider side with a facsimile image is in the electronic commerce service utilization time by the Internet. However, by this approach, the document with which the credit card number was written down is outputted to the facsimile apparatus by the side of an electronic commerce service provider, and if that storage management is unsuitable, since hard copy etc. can be performed easily, a possibility that secrecy information may be used unjustly will arise.
[0009]
[Problem(s) to be Solved by the Invention] In electronic commerce, such as online SHOPINGU service by the Internet, a user transmits and purchases a credit card number etc. to finish settlement of goods price simple. However, the cure of security was not thoroughgoing to transmission of the secrecy information which went via the Internet, and the check of the electronic commerce data to trouble generating of the unjust claim by the multiplex claim by the procedure mistake by the side of an electronic commerce service provider, other users' wrongful act, etc. had become it with the complicated thing in the electronic commerce service by the Internet.
[0010] Furthermore, when a user used the electronic commerce service provider from which plurality differs, conventionally, the electronic commerce service from the electronic commerce service provider which it is necessary to register information, such as a credit card number, for every electronic commerce service provider, and unitary management of secrecy information cannot be performed, and has not registered credit card number information etc. in advance could not be used, but was inconvenience.
[0011] This invention aims at simple and offering the electronic banking authentication system which can perform electronic commerce, and electronic commerce service provider equipment safely in the electronic commerce service by the Internet, without preventing leakage of secrecy information, such as a credit card number, and being able to perform maintenance and a check of electronic commerce data, and the user registering secrecy information, such as a credit card number, beforehand.
[0012]
[Means for Solving the Problem] The electronic banking authentication system of this invention sends and receives the data of electronic commerce through the Internet between (1) user terminal and electronic commerce service provider equipment. In the electronic banking authentication system for the electronic commerce which settles payment of this electronic commerce by the credit card transaction system this electronic banking authentication system If the data of electronic commerce including a user ID child are received from said electronic commerce service provider equipment A means to call back a user terminal through a public network based on this user ID child, and to receive the secrecy information of the user for electronic banking directly through this public network from a user terminal, A means to transmit the secrecy information of the this user who received to a credit card transaction system, and to receive the authentication result data about this user's secrecy information from a credit card transaction system, It has a means to transmit these authentication result data to said electronic commerce service provider equipment.
[0013] (2) -- said electronic banking authentication system is equipped with the configuration which sends and receives information through the public network of said user terminal and ISDN circuit, or an analog telephone line, and sends and receives information data through said credit card transaction system and dedicated line, or a digital data exchange. [moreover,]
[0014] (3) -- said electronic banking authentication system is equipped with the subscriber database storage section which memorizes the subscriber information on the user who registered with this electronic banking authentication system beforehand, and an electronic commerce service provider, and the transaction database storage section which memorizes the order data of the electronic commerce sent and received between a user terminal and electronic commerce service provider equipment.
[moreover,]
[0015] (4) -- the subscriber database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the user ID child and electronic commerce service provider identifier of a proper to each user and each electronic commerce service provider, respectively,

and said electronic banking authentication system has the configuration which reads the subscriber information on a user or an electronic commerce service provider from said subscriber database storage section by using those identifiers as a master key. [moreover,]
[0016] (5) -- the transaction database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the transaction identifier of a proper to the order data of each electronic commerce, respectively, and said electronic banking authentication system is equipped with a means to notify this transaction identifier to said credit card transaction system and said electronic commerce service provider equipment. [moreover,]
[0017] (6) -- said electronic-banking authentication system searches this user's telephone number from the subscriber database storage section based on the user-ID child transmitted from electronic-commerce service provider equipment, and is equipped with a means send out an announcement including a means call back a user through a public network with this telephone number, and the guidance which stimulates transmission of the secrecy information of a user required for electronic banking, and the means which carry out the reception maintenance of the secrecy information transmitted from the user terminal.
[moreover,]
[0018] Said electronic banking authentication system is equipped with a means to recognize whether the circuit to which the user terminal was connected is an ISDN circuit, or it is an analog telephone line based on the data of said subscriber database storage section. (7) -- [moreover,] A means to call back said user terminal A user terminal is faced calling back when the circuit to which said user terminal was connected is an ISDN circuit. When the circuit of said user terminal is busy The queuing call or call waiting call which waits for and calls busy termination is performed. When the circuit to which said user terminal was connected is an analog telephone line, it has the configuration which performs the queuing call or call waiting call which waits for and calls termination of the Internet connectivity of said user terminal.
[0019] Moreover, the electronic commerce service provider equipment of this invention (8) A means to provide a user terminal with the display screen for electronic commerce through the Internet, and to receive the order data of electronic commerce with a user ID child from a user terminal, A means to transmit this user ID child and the order data of electronic commerce to an electronic banking authentication system through the Internet, It has a means to receive said user ID child and the authentication result information about said electronic commerce from said electronic banking authentication system, and a means to transmit the transaction identifier of the order data of said electronic commerce for this authentication result information to said user terminal.
[0020]
[Embodiment of the Invention] Drawing 1 is the explanatory view of the electronic commerce service system of this invention.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the electronic banking authentication system and electronic commerce service provider equipments in electronic commerce, such as on-line shopping by the Internet.

[0002] The commercial on line service by the Internet spreads in recent years, and the opportunity for the individual secrecy information for electronic banking to be transmitted and received on the Internet is increasing. The individual secrecy information sent and received for electronic banking is protected by insurance, and construction of the system which can perform quick and simple electronic banking is demanded as use of the electronic commerce by such commercial on line service increases.

[0003] In on-line shopping, virtual Mall shopping, etc. by the Internet for a user side It is the system by which the secrecy information which secrecy information, such as a credit card number, was transmitted to insurance, and was transmitted is not abused by revealing, moreover, for an electronic commerce service provider side It is important that the user who accessed electronic commerce service is him of Shinsei of a commercial transaction, and it is the system by which the corroboration of the price using the credit card number information transmitted by the user that there is no trouble in paying is obtained.

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EFFECT OF THE INVENTION

[Effect of the Invention] As explained above, according to this invention, secrecy information, such as a credit card number, is directly transmitted only to an electronic banking authentication system through a public network from a user. By carrying out the centralized control of the secrecy information, such as this credit card number, to a credit card transaction system-like the direct question of 1 yuan in all by a dedicated line etc., this electronic banking authentication system Secrecy information, such as credit card information, is not sent and received on the Internet. Since it is not necessary to raise the safety on the management to the outflow of secrecy information etc. and and a user does not need to register credit card information etc. into each electronic commerce service provider beforehand, There is an advantage which can use on-line shopping isoelectronic commercial transaction service immediately by simple actuation.
[0078] in order that [furthermore,] an electronic banking authentication system may perform his identification by calling back an electronic commerce service user based on the subscriber information memorized by the database storage section -- an electronic commerce service provider side and a user side -- him -- the need of the special authentication equipment for identification cannot be carried out, but a simple configuration can perform his identification, and trouble generating of an unjust claim of the tariff by a user's wrongful act etc. can be prevented.
[0079] Since the effectiveness of a user's credit card is notified from an electronic banking authentication system, electronic commerce service provider equipment does not need to perform maintenance of a user's credit card information, and management, and can constitute a system simply.
[0080] By attaching an identifier and managing the transaction data about the electronic commerce exchanged between the user and the electronic commerce service provider in an electronic banking authentication system, a series of commo data of transmission and reception of electronic commerce information and secrecy information can be managed unitary in this electronic banking authentication system, the check at the time of generating of troubles, such as an incorrect claim, can become easy, and electronic commerce service reliability can be raised.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] In electronic commerce, such as online SHOPINGU service by the Internet, a user transmits and purchases a credit card number etc. to finish settlement of goods price simple. However, the cure of security was not thoroughgoing to transmission of the secrecy information which went via the Internet, and the check of the electronic commerce data to trouble generating of the unjust claim by the multiplex claim by the procedure mistake by the side of an electronic commerce service provider, other users' wrongful act, etc. had become it with the complicated thing in the electronic commerce service by the Internet.
[0010] Furthermore, when a user used the electronic commerce service provider from which plurality differs, conventionally, the electronic commerce service from the electronic commerce service provider which it is necessary to register information, such as a credit card number, for every electronic commerce service provider, and unitary management of secrecy information cannot be performed, and has not registered credit card number information etc. in advance could not be used, but was inconvenience.
[0011] This invention aims at simple and offering the electronic banking authentication system which can perform electronic commerce, and electronic commerce service provider equipment safely in the electronic commerce service by the Internet, without preventing leakage of secrecy information, such as a credit card number, and being able to perform maintenance and a check of electronic commerce data, and the user registering secrecy information, such as a credit card number, beforehand.

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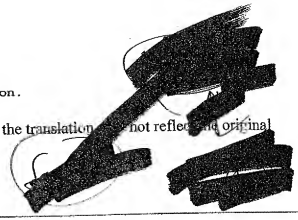


MEANS

[Means for Solving the Problem] The electronic banking authentication system of this invention sends and receives the data of electronic commerce through the Internet between (1) user terminal and electronic commerce service provider equipment. In the electronic banking authentication system for the electronic commerce which settles payment of this electronic commerce by the credit card transaction system this electronic banking authentication system If the data of electronic commerce including a user ID child are received from said electronic commerce service provider equipment A means to call back a user terminal through a public network based on this user ID child, and to receive the secrecy information of the user for electronic banking directly through this public network from a user terminal, A means to transmit the secrecy information of the this user who received to a credit card transaction system, and to receive the authentication result data about this user's secrecy information from a credit card transaction system, It has a means to transmit these authentication result data to said electronic commerce service provider equipment.

[0013] (2) -- said electronic banking authentication system is equipped with the configuration which sends and receives information through the public network of said user terminal and ISDN circuit, or an analog telephone line, and sends and receives information data through said credit card transaction system and dedicated line, or a digital data exchange. [moreover,]

[0014] (3) -- said electronic banking authentication system is equipped with the subscriber database storage section which memorizes the subscriber information on the user who registered with this electronic banking authentication system beforehand, and an electronic commerce service provider, and the transaction database storage section which memorizes the order data of the electronic commerce sent and received between a user terminal and electronic commerce service provider equipment.

[moreover,]

[0015] (4) -- the subscriber database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the user ID child and electronic commerce service provider identifier of a proper to each user and each electronic commerce service provider, respectively, and said electronic banking authentication system has the configuration which reads the subscriber information on a user or an electronic commerce service provider from said subscriber database storage section by using those identifiers as a master key. [moreover,]

[0016] (5) -- the transaction database storage section of said electronic banking authentication system has the configuration which assigns and memorizes the transaction identifier of a proper to the order data of each electronic commerce, respectively, and said electronic banking authentication system is equipped with a means to notify this transaction identifier to said credit card transaction system and said electronic commerce service provider equipment. [moreover,]

[0017] (6) -- said electronic-banking authentication system searches this user's telephone number from the subscriber database storage section based on the user-ID child transmitted from electronic-commerce service provider equipment, and is equipped with a means send out an announcement including a means call back a user through a public network with this telephone number, and the guidance which stimulates transmission of the secrecy information of a user required for electronic banking, and the means which

carry out the reception maintenance of the secrecy information transmitted from the user terminal.
[moreover,]
[0018] Said electronic banking authentication system is equipped with a means to recognize whether the circuit to which the user terminal was connected is an ISDN circuit, or it is an analog telephone line based on the data of said subscriber database storage section. (7) -- [moreover,] A means to call back said user terminal A user terminal is faced calling back when the circuit to which said user terminal was connected is an ISDN circuit. When the circuit of said user terminal is busy The queuing call or call waiting call which waits for and calls busy termination is performed. When the circuit to which said user terminal was connected is an analog telephone line, it has the configuration which performs the queuing call or call waiting call which waits for and calls termination of the Internet connectivity of said user terminal.
[0019] Moreover, the electronic commerce service provider equipment of this invention (8) A means to provide a user terminal with the display screen for electronic commerce through the Internet, and to receive the order data of electronic commerce with a user ID child from a user terminal, A means to transmit this user ID child and the order data of electronic commerce to an electronic banking authentication system through the Internet, It has a means to receive said user ID child and the authentication result information about said electronic commerce from said electronic banking authentication system, and a means to transmit the transaction identifier of the order data of said electronic commerce for this authentication result information to said user terminal.
[0020]
[Embodiment of the Invention] Drawing 1 is the explanatory view of the electronic commerce service system of this invention. this drawing -- setting -- 1-1 -- a user's information-machines-and-equipment terminal and 1-2 -- this user's telephone terminal, and 1-3 -- for the Internet communication network and 1-6, as for an electronic banking authentication system and 1-8, electronic commerce service provider equipment and 1-7 are [ISDN or an analog telephone network, and 1-4 / Internet Service Provider equipment and 1-5 / a dedicated line or a packet exchange network, and 1-9] credit card transaction systems.
[0021] The information-machines-and-equipment terminals 1-1 of user ** are information processors, such as a personal computer, and are connected to ISDN or the analog telephone network 1-3 with this user's telephone terminal 1-2. Here, the information-machines-and-equipment terminal 1-1 and telephone terminal of user ** constitute a user terminal.
[0022] It connects with Internet Service Provider equipment 1-4 through ISDN or the analog telephone network 1-3, and connects with electronic commerce service provider equipment 1-6 via the Internet communication network 1-5, and a user's information-machines-and-equipment terminal 1-1 transmits the data for electronic commerce.
[0023] Electronic commerce service provider equipment 1-6 offers the web page for electronic commerce (homepage) on the Internet, and if the order data for the electronic commerce transmitted by the user are received, it will connect with the electronic banking authentication system 1-7 via the Internet communication network 1-5, and it will carry out the request demand of the authentication at the electronic banking authentication system 1-7 for electronic commerce.
[0024] The electronic banking authentication system 1-7 is equipped with the function to perform authentication for electronic banking alone about a user, to each authentication request demand from two or more electronic commerce service provider equipments 1-6, and functions as an authentication center intensively prepared to two or more electronic commerce service providers.
[0025] The electronic banking authentication system 1-7 calls back a user's telephone terminal 1-2 through ISDN or the analog telephone network 1-3. Secrecy information, such as a credit card number, is received through ISDN or the analog telephone network 1-3 from a user. Moreover, authentication center equipment 1-7 is connected to the credit card transaction system 1-9 through a dedicated line or a packet exchange network 1-8. While notifying the credit card number received from the user to the credit card transaction system 1-9, the inquiry about payment by the credit card number etc. is performed, and it has the function to transmit the result to electronic commerce service provider

equipment 1-6.
[0026] The credit card transaction system 1-9 is installed in a credit card company etc., and it checks [which is depended on account draw down etc.] paying for no trouble based on information, such as a credit card number notified from the electronic banking authentication system 1-7, and the amount-of-money information on electronic commerce, and has the function to transmit the result to the electronic banking authentication system 1-7.
[0027] Thus, although transmission and reception of the data through ISDN or the analog telephone network 1-3, the Internet communication network 1-5 and a dedicated line, or a packet exchange network 1-8 perform electronic banking authentication by this invention, the simple Internet communication network 1-5 of actuation is used for transmission and reception of the high information on secrecy nature at transmission and reception of the low information on secrecy nature using ISDN or the analog telephone network 1-3 and a dedicated line, or a packet exchange network 1-8. In addition, the above-mentioned packet exchange network may be a digital data exchange.
[0028] Drawing 2 is drawing showing the principal part of the electronic banking authentication system of this invention. The electronic banking authentication system 2-10 consists of the exchange section 2-3 equipped with the subscriber database storage section 2-1 and the announcement machine 2-2 holding subscriber information, such as a user, and the communication terminal section 2-5 equipped with the transaction database storage section 2-4 in which electronic commerce carries out order data-hold.
[0029] The exchange section 2-3 calls back a user terminal 2-7 through ISDN or the analog telephone network 2-6, sends out the guidance which stimulates sending out of information (a user ID child, credit card number, etc.) required for the claim amount of money and electronic banking with an announcement machine 2-2 by synthesized speech, and has the function to receive information required for electronic banking including secrecy information, such as a credit card number transmitted by the PB signal etc. from the user terminal 2-7.
[0030] Moreover, the exchange section 2-3 has the function which performs a notice and an inquiry to the credit card transaction system 2-9 through a dedicated line or a packet exchange network 2-8, receives the reply result about the received credit card number, and is sent out to the communication terminal section 2-5.
[0031] The communication terminal section 2-5 will transmit to the electronic commerce service provider (CSP) 2-12 through the Internet communication network 2-11, if it connects with the exchange section 2-3 and the reply result from the credit card transaction system 2-9 is received from the exchange section 2-3.
[0032] Thus, it connects with ISDN or the analog telephone network 2-6 and a dedicated line, or a packet exchange network 2-8, and the high information on secrecy nature is sent [the exchange section 2-3] and received through ISDN, the analog telephone network 2-6, a dedicated line, or a packet exchange network 2-8.
[0033] It connects with the Internet communication network 2-11, and the communication terminal section 2-5 sends and receives the low information on secrecy nature through the Internet communication network 2-11. Since the Internet communication link goes via many and unspecified Internet Service Providers, this reason is because it is hard to call it what has the enough safety management to the nondisclosure of communication link information, as it was mentioned above.
[0034] Since it connects with a direct communication partner's transmitter-receiver, information is sent and received and any third persons other than a communications partner do not intervene, there are few dangers that communication link information will flow out, and, as for the communication link which, on the other hand, minded only ISDN which is a public network, the analog telephone network, the packet exchange network, or the dedicated line, whenever [insurance] is high.
[0035] By therefore, the electronic banking authentication system which installed the authentication center where only [which deals with the communication link information as which nondisclosure strict observance is required in electronic commerce service], or a fraction was restricted, and was furnished to this authentication center When it considers as the configuration which carries out the centralized control of the secrecy information unitary and this electronic banking authentication system considers as

the configuration which uses a communication network properly according to the secrecy nature of the information sent and received, decentralization and tapping of confidential information can be prevented and the reliable system to confidential information can be built.

[0036] Drawing 3 is the functional block diagram of the electronic banking authentication system of this invention. For CPU of this exchange section, and 3-12, as for the I/O section of the exchange section, and 3-14, in this drawing, the data communication section of the exchange section and 3-13 are [3-1 / the exchange section and 3-11 / the service control section and 3-15] the subscriber database storage sections.

[0037] Moreover, as for 3-2, as for the communication terminal section and 3-21, CPU of this communication terminal section and 3-22 are the transaction database storage sections in which the data communication section of the communication terminal section, the I/O section of the 3-23 communication-terminal section, and 3-24 hold the WWW (Word Wide Web) database storage section, and 3-25 holds order data.

[0038] The data communication section 3-12 of the exchange section calls back a user's telephone terminal through ISDN or an analog telephone network, receives information, such as a credit card number, and performs a notice and an inquiry to a credit card transaction system through a dedicated line or a packet exchange network about information, such as a received credit card number. It connects with the I/O section 3-23 of the communication terminal section, and mutual, and the I/O section 3-13 of the exchange section has the data communication between the exchange section 3-1 and the communication terminal section 3-2, and a data conversion feature for it.

[0039] It connects with the Internet communication network, and the data communication section 3-22 of the communication terminal section receives the order data of the electronic commerce by the Internet from an electronic commerce service provider, and transmits the inquiry result information from a credit card transaction system etc. to an electronic commerce service provider.

[0040] The subscriber database storage section 3-15 of the exchange section memorizes as a database each user who had the registration demand beforehand, an electronic commerce service provider, and the subscriber information about a credit card company. Therefore, although the user who demands electronic commerce needs to register subscriber information beforehand only to the subscriber database storage section 3-15 of this electronic banking authentication system, in order that it may perform the call-back from an electronic banking authentication system proper, it is the minimum information for managing the transaction data of electronic commerce, and there is no registering-beforehand-secrecy information, such as credit card number, need.

[0041] The WWW database storage section 3-24 of the communication terminal section memorizes the database for the web pages of the Internet, and the transaction database storage section 3-25 holds transaction data, such as order data sent and received between the user and the electronic commerce service provider.

[0042] Drawing 4 is drawing showing the contents of the database storage section of the electronic banking authentication system of this invention. (B of (A) of drawing) of a subscriber database and drawing is a transaction database between a user and an electronic commerce service provider.

[0043] The subscriber database of (A) of drawing memorizes the subscriber information in the form of a chart for every user, electronic commerce service provider, and credit card company. About a user, a user ID child (ID), a name, the address, the telephone number, a service state, etc. are memorized, an electronic commerce service provider identifier (service ID), a firm name, the address, the telephone number, a service state, etc. are memorized about an electronic commerce service provider, and subscriber information, such as a credit card company identifier (credit ID), a firm name, the other addresses that omitted illustration, the telephone number, and a service state, is memorized about a credit card company.

[0044] furthermore, a subscriber database carries out storage maintenance of each user's circuit class and class of service (for example, an ISDN circuit or an analog telephone line -- moreover -- the subscriber's loop in which call waiting (call waiting) service is possible ****** -- etc. -- data).

[0045] The transaction database of (B) of drawing memorizes a transaction identifier (ID), an

authentication result, a credit card company identifier (credit ID), a user ID child (ID), an electron commerce service provider identifier (service ID), a trade name, the number, a price, etc. in the form o a chart.

[0046] Drawing 5 thru/or drawing 7 are the explanatory views of the communication procedure of electronic commerce service of this invention. As first shown in ** of drawing 5 , by the Internet connectivity, a user transmits the order data about purchase goods, such as user ID, a trade name, and the number, to the database section of the WWW server 5-2 of an electronic commerce service provider (CSP) through an Internet Service Provider (ISP) using the information-machines-and-equipment terminal 5-1.

[0047] Next, as shown in ** of drawing 6 , the WWW server 6-1 of an electronic commerce service provider transmits data, such as Service ID, user ID, a trade name, the number, and a price, to the database section of the electronic banking authentication system 6-2 by the Internet connectivity.

[0048] The electronic banking authentication system 6-2 (it sets to drawing 5 and is 5-3) searches the circuit class and class of service from a subscriber database based on user ID, and a user transmits user ID and a credit card number from the telephone terminal 5-4, as are shown in ** of drawing 5 , and it calls back by public network connection and a user's telephone terminal 5-4 is shown in **' of drawing 5 .

[0049] Here, when a user terminal 5-1 and 5-4 are connected by the ISDN circuit, maintaining connection, since two circuits were used independently without cutting the Internet connectivity circuit of the above-mentioned **, a user can answer with the telephone terminal 5-4 to the call-back from the electronic banking authentication system 5-3 to another circuit, and can receive subsequent authentication service.

[0050] When a user terminal 5-1 and 5-4 are connected by the analog telephone line, a user once cuts the Internet connectivity of the above-mentioned **, and the electronic banking authentication system 5-3 waits for cutting of this Internet connectivity, and performs the queuing call which calls a user's telephone terminal 5-4.

[0051] Although the user of an analog telephone line answers a queuing call from the electronic banking authentication system 5-3 and transmits user ID and a credit card number from the telephone terminal 5-4, the electronic mail through the Internet will receive subsequent authentication service.

[0052] Moreover, when a user terminal 5-1 and the circuit to which 5-4 was connected are ISDN circuits and another circuit mentioned above is busy, the electronic banking authentication system 5-3 waits for cutting of the circuit of the Internet connectivity of the aforementioned **, or another circuit, and performs the queuing call which calls back a user's telephone terminal 5-4.

[0053] In addition, when it is the class of service in which a user can receive a call waiting call (call waiting), the electronic banking authentication system 5-3 can perform a call waiting call instead of the above-mentioned queuing call, it can answer a call-back from the electronic banking authentication system 5-3, maintaining without cutting the Internet connectivity circuit of the above-mentioned **, and can be considered as the configuration which receives subsequent authentication service.

[0054] Next, as shown in ** of drawing 7 , the electronic banking authentication system 7-1 transmits data, such as Transaction ID, user ID, a credit card number, a trade name, and the number, to credit card transaction System 7 -2 through a leased connection or a packet exchange network.

[0055] Credit card transaction System 7 -2 transmits data, such as Service ID, user ID, and an authentication result, to the electronic banking authentication system 7-1 through a leased connection or a packet exchange network, as shown in ** of drawing 7 .

[0056] Next, as shown in ** of drawing 6 , the electronic banking authentication system 6-2 transmits data, such as Transaction ID, user ID, an authentication result, and credit card company ID, to the WWW server 6-1 of an electronic commerce service provider through an Internet connectivity. In addition, you may make it the electronic banking authentication system 6-2 (for it to set to drawing 5 and to be 5-3) announce an authentication result with voice through a public network at this and coincidence to a user's telephone terminal 5-4, as shown at **' of drawing 5 .

[0057] As finally shown in ** of drawing 5 , the detail information and the receipt of order data of

electronic commerce are published with Transaction ID through the Internet from the WWW server 5-2 of an electronic commerce service provider. Therefore, a user can check the contents of a detail which include the authentication result of electronic commerce on the screen of a WWW browser immediately.

[0058] Next, the electronic banking authentication system of this invention and the flow of electronic commerce service provider equipment of operation are explained with drawing 8 and drawing 9 . Drawing 8 is the flow chart of actuation of the electronic commerce service provider equipment of this invention. Moreover, drawing 9 is the flow chart of actuation of the electronic banking authentication system of this invention.

[0059] If electronic-commerce service provider equipment will be in the initiation condition of electronic-commerce service of the Internet in step 8-1 shown in drawing 8 , it will display a goods purchase exchange screen by the Web server in step 8-2, and if the basic information input of electronic commerce, such as user ID from a user, the telephone number, and a trade name of choice, is inputted into waiting and this basic information, it will transmit basic information to an electronic-banking authentication system in step 8-4 in step 8-3.

[0060] If an electronic banking authentication system receives basic information in step 9-1 shown in drawing 9 , in step 9-2, this user ID investigates whether it exists in the subscriber database storage section, if it exists, the telephone number of this user ID will be searched in step 9-3, and if this user's circuit investigates an ISDN circuit or an analog telephone line and it is an ISDN circuit in step 9-4, in step 9-5, it calls back with the registration telephone number.

[0061] Moreover, if a user's circuit is an analog telephone line, the queuing call or call waiting (call waiting) call which waits for and calls busy termination in step 9-6 will be performed. On the other hand, when are called back in the above-mentioned step 9-5 to the user of an ISDN circuit and it is busy (busy), the queuing call or call waiting (call waiting) call which waits for and calls busy termination similarly in step 9-6 is performed.

[0062] If a user's response to a call-back is detected in step 9-7, guidance with voice will be announced in step 9-8, and it will wait for the input of secrecy information, such as a credit card number, in step 9-9. If secrecy information, such as a credit card number, is inputted, in step 9-10, secrecy information and Transactions ID, such as a credit card number, will be transmitted to a credit card transaction system (credit firm), and the authentication result will be received from a credit card transaction system.

[0063] If an authentication result is received from a credit card transaction system, in step 9-11, Transaction ID and the authentication result of a credit card number will be transmitted to electronic commerce service provider equipment. In addition, when user ID does not exist in the above-mentioned step 9-2, the message which refuses the contents of reception in step 9-12 is generated, and the message is transmitted to electronic commerce service provider equipment by step 9-11.

[0064] If electronic commerce service provider equipment receives an authentication result from an electronic banking authentication system, the normality of an authentication result is judged in step 8-5 shown in drawing 8 , and if normal, the screen display of credit card authentication ending [which shows an authentication result to a user terminal in step 8-6], and receipt issue, and the screen of Transaction ID will be displayed, and it will end.

[0065] Moreover, in the judgment of the above-mentioned step 8-5, when an authentication result is abnormal, in step 8-7, the screen for which credit card authentication is improper is displayed, and it returns to the above-mentioned initiation step 8-1 in step 8-8.

[0066] Drawing 10 is the sequence chart of signal transmission and reception of electronic commerce service of this invention. In this drawing, an Internet Service Provider and CSP of the subscriber exchange and ISP in which LS has held the user are electronic commerce service providers.

[0067] The ISDN circuit or analog telephone line which is a public network connects through the subscriber exchange (LS) between a user and an Internet Service Provider (ISP) and between the authentication centers and users having an electronic banking authentication system.

[0068] The Internet connects between an Internet Service Provider (ISP) and an electronic commerce service provider (CSP), and a dedicated line or a packet exchange network connects between an

authentication center and the credit card company equipped with the credit card transaction system.
[0069] A user emits the call to an Internet Service Provider (ISP) at the subscriber exchange (LS) (10-1), a user and an Internet Service Provider (ISP) are connected (10-2), and a user and an electronic commerce service provider (CSP) are connected via this user and an Internet Service Provider (ISP) (10-3).
[0070] A user transmits commercial transaction information, such as user ID and a trade name, to an electronic commerce service provider (CSP) (10-4), and an electronic commerce service provider (CSP) transmits those information to an authentication center (10-5).
[0071] An authentication center investigates a user's telephone number (tele#) with a database from user ID (10-6), and transmits Transaction ID to an electronic commerce service provider (CSP) (10-7).
[0072] Since this transaction ID is transmitted to a user (10-8) and an authentication center calls back the subscriber exchange (LS) in this user, call origination of the electronic commerce service provider (CSP) is carried out (10-9).
[0073] It connects through a public network between an authentication center and a user (10-10), an announcement is sent out so that an authentication center may input secrecy information, such as credit card information, (10-11), and a user inputs secrecy information, such as Transaction ID, user ID, and credit card information, with a telephone terminal (10-12).
[0074] An authentication center registers into a database temporarily the secrecy information inputted by the telephone terminal (10-13), and cuts connection through the public network between users (10-14). An authentication center transmits and asks a credit card company secrecy information, such as credit card information further inputted by the telephone terminal, (10-15), and a credit card company transmits authentication results, such as this credit card information, to an authentication center (10-16).
[0075] An authentication center transmits this authentication result to an electronic commerce service provider (CSP) (10-17), and an electronic commerce service provider (CSP) transmits an attested [credit card] check certificate and a receipt with Transaction ID based on this authentication result (10-18), and a user logs out in response to it, and demands cutting of connection with an Internet Service Provider (ISP) (10-19).
[0076] The subscriber exchange (LS) cuts the connection which minded the public network by the disconnect request from a user (10-20). An electronic commerce service provider (CSP) will ask a credit card company for the goods price by this electronic commerce, and a credit card company will ask a user for the price.

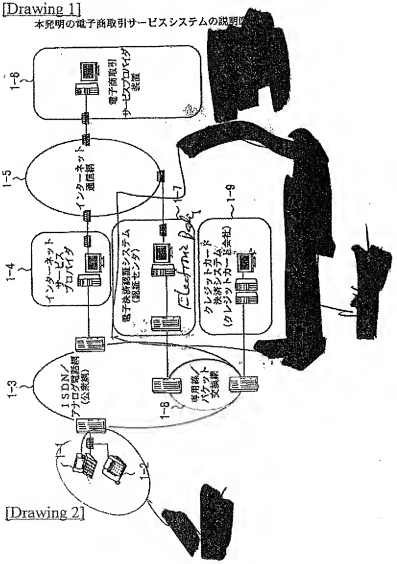
[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

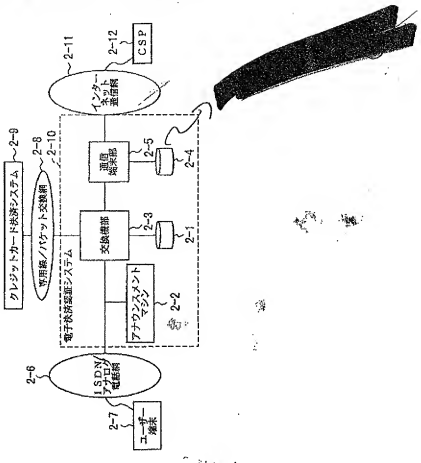
DRAWINGS

[Drawing 1]



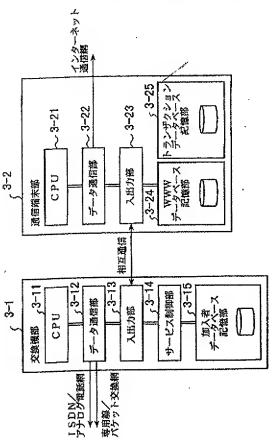
[Drawing 2]

本発明の電子決済認証システムの主要部を示す図



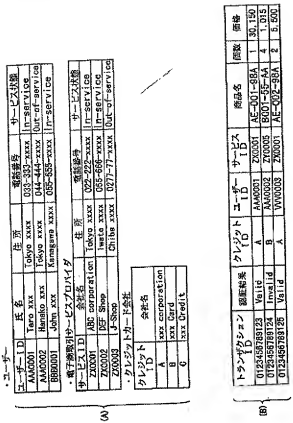
[Drawing 3]

本発明の電子決済認証システムの機能ブロック図



[Drawing 4]

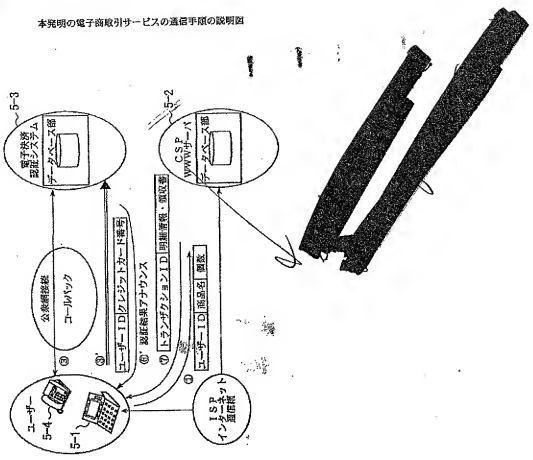
本発明の電子決済認証システムのデータベース記憶部の内容を示す図



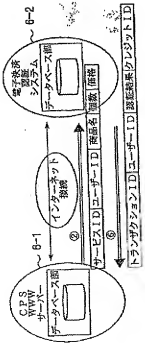
[Drawing 5]

JP,2000-076350,A.html 6/28/2007

本発明の電子商取引サービスの通信手順の説明図

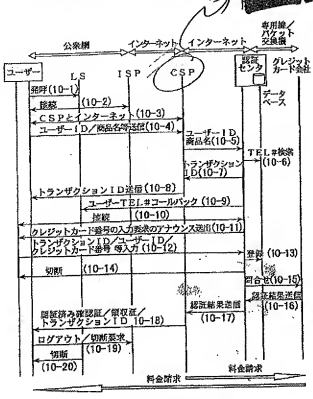


[Drawing 6]
本発明の電子商取引サービスの通信手順の説明図



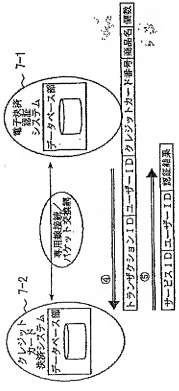
[Drawing 10]

本発明の電子取引サービスの信号受信のシーケンスチャート

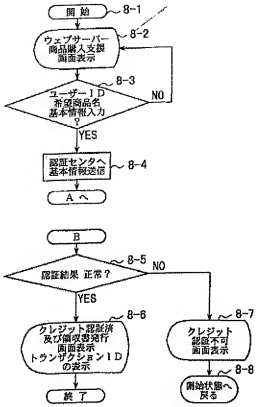


[Drawing 7]

本発明の電子商取引サービスの通信手順の説明図

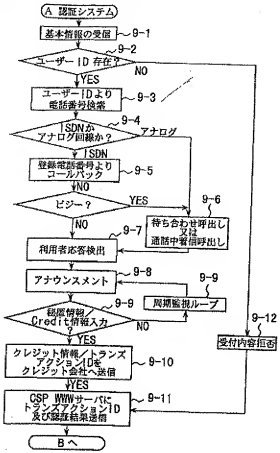


[Drawing 8]
本発明の電子商取引サービスプロバイダ装置の動作のフローチャート



[Drawing 9]

本発明の電子決済認証システムの動作のフローチャート



[Translation done.]

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-076336
(43)Date of publication of application : 14.03.2000

(51)Int.Cl. G06F 17/60
G09C 1/00
H04L 9/32
H04L 12/54
H04L 12/58
H04M 3/42

(21)Application number : 10-244726
(22)Date of filing : 31.08.1998

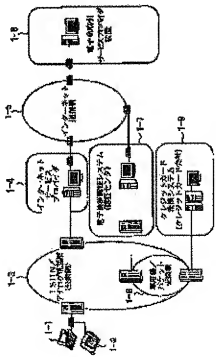
(71)Applicant : FUJITSU LTD.
(72)Inventor : FUKUO TARO

(54) ELECTRONIC SETTLEMENT AUTHENTICATION SYSTEM AND ELECTRONIC COMMERCE SERVICE PROVIDER DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To easily and securely carry out electronic commerce such as on-line shopping through the Internet by preventing secret information on a credit card number etc., from leaking.

SOLUTION: Order data on an article etc., are sent from a user terminal 1-1 to the electronic commerce service provider device 1-6 through the Internet 1-5 and the electronic commerce provider device sends those data out to an electronic settlement authentication system 1-7. The electronic settlement authentication system calls the user terminal back through a public telephone network 1-3 to receive secret information on a credit card number etc., directly from the user terminal through the public telephone network, sends the secret information to a credit card settlement system 1-9, and receives authentication result data on the credit card number etc., from the credit card settlement system and then sends the authentication result data to the electronic commerce service provider device.



LEGAL STATUS

[Date of request for examination]	30.07.2001
[Date of sending the examiner's decision of rejection]	16.12.2003
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]	
[Date of final disposal for application]	
[Patent number]	
[Date of registration]	
[Number of appeal against examiner's decision of rejection]	
[Date of requesting appeal against examiner's decision of rejection]	
[Date of extinction of right]	